

The relationship of agility to the skill performance of handball players under 15 years old. A field study on the Wydad Sidi Issa Team.

علاقة صفة الرشاقة بالأداء المهاري للاعبين كرة اليد اقل من 15 سنة دراسة ميدانية على فريق وداد سيدي عيسى.

Dr. Houiche Zakarya^{*1}, Dr. Abdelkebir Kamel², Dr. Tayoub aboubakr elseddiq³

¹Abdelhamid Mehri University - Constantine 02. (Algeria) Email: zaki.eps87@gmail.com

²University - Algiers 03. (Algeria) Email: Kamel18021979@gmail.com

³University of Kasdi merbah ourgla (Algeria) / Email: Tayoubaboubakr@gmail.com

Received: 2024-08-24

Accepted: 2024-11-09

Published: 2025-02-22

Abstract:

In this topic, the researcher touched on the characteristic of agility, which is among the important characteristics in physical preparation, and its relationship to the skill preparation of handball players under 15 years old. The study aimed to identify the relationship between both agility on the performance of the shooting skill of rising and on the skill of dribbling and deception. Defensive steps in handball for players under 15 years old. The study was conducted on Wydad Sidi Issa Club, under 15 years of age, consisting of 12 players. To achieve this purpose, we conducted physical tests (Barrow agility test). As for the skill tests, they are (the shooting test from the rise, the dribbling test, deception, and defensive steps). Given the nature of the subject, we used the descriptive correlational approach. As for the statistical methods, we relied on the arithmetic mean, the standard deviation, and the simple Pearson correlation coefficient. Finally, we concluded that there is a significant correlation between agility and the handball skills under study.

Keywords: agility, skill, handball.

المخلص:

تطرق الباحث في هذا الموضوع إلى خاصية صفة الرشاقة التي تعد من بين الصفات المهمة في الإعداد البدني وعلاقتها بالإعداد المهاري لدى لاعبي كرة اليد اقل من 15 سنة، وهدفت الدراسة إلى التعرف على العلاقة بين كل من الرشاقة على أداء مهارة التصويب من الارتقاء وعلى مهارة التنطيط والخداع والخطوات الدفاعية في كرة اليد لدى اللاعبين اقل من 15 سنة. وتمت الدراسة على نادي وداد سيدي عيسى صنف اقل من 15 سنة المتمثل في 12 لاعب ولتحقيق هذا الغرض قمنا بإجراء اختبارات البدنية المتمثلة في (اختبار بارو للرشاقة). أما الاختبارات المهارية فهي (اختبار التصويب من الارتقاء، اختبار التنطيط، الخداع، الخطوات الدفاعية)، ونظرا لطبيعة الموضوع استخدمنا المنهج الوصفي الارتباطي، أما الوسائل الإحصائية فاعتمدنا على المتوسط الحسابي والانحراف المعياري، ومعامل الارتباط البسيط لبيرسون. وقد خلصنا في الأخير: أن هناك علاقة ارتباطية معنوية بين كل من الرشاقة ومهارات كرة اليد قيد الدراسة.

الكلمات الدالة: الرشاقة، المهارة، كرة اليد.

Introduction and research problem:

The enormous expansion in the volume of scientific and human knowledge and the revolution taking place in the field of information has extended to all the different branches and fields of science, which has made us keep pace with this expansion and development until we become part of modern societies. This development has borne fruit in the field of sports and sports training, where countries are still To this day, it harnesses its full material and human potential to serve its communities in this vital field, the field of sports, the upbringing of individuals, and reaching the highest levels of sports, which is considered one of the most important goals of sports training planned in accordance with scientific foundations and principles. Sports training for any physical activity is not a random process that depends on chance or is based on the principle of trial and error, but it is a well-studied and properly planned process based on scientific foundations with in a codified education al frame work.

This is what (Issam Abdel Khaleq) points out: “Sports training is those educational trends and methods that aim to raise the efficiency and capabilities of players’ physical, skill, tactical and psychological abilities sot hat they are able to exert the required effort in an economical way to reach a level.” (Al-Hawi, 2002, p. 10).

Handball is one of the sports that is centered with in the fields of sports training and which requires high physical fitness for its players, because the small area of the field and the speed of play impose this, and we of ten see in modern play the team that has the highest physical fitness is the one that controls the match from beginning to end. Performing skills requires physical abilities to accomplish them. Practical reality indicates that no skill is devoid of one or more physical components. (Al-Jumaili, 2014, p. 315). Muhammad Hassan Allawi believes: “Handball represents an advanced position among all sports, as it is distinguished by the number of technical skills when the required amount of physical fitness is available. Accordingly, all players must possess a large number of diverse motor experiences.” (Allawi et al., 2003, p. 33).

It is worth noting that physical characteristics are born with a person and grow as he grows, and that growth affects the nature of the individual’s work and style in life and the degree of his motor activity, whether the activity is intentional or unintentional. Also, sports motor skills cannot grow, develop and be controlled with out the maturity of the specific physical characteristics and for this reason. Individual differences in development rates appear during various age stages, especially (13-15 years) between the sexes, and even between members of the same sex. This difference is due to the rate of development in physical characteristics caused by internal and external influences such as the environment, heredity, and desire. (Jaaz, 2007, p. 37).

In our research, we focused on the age stage (13-15 years), which is considered the stage of the energy reservoir for discovering and refining sports talents. At this stage, the emerging player has a desire to learn and practice various skills and the ease of assimilating them.

This stage is called early adolescence or adult hood, as it represents a time interval between child hood and adult hood. It carries several characteristics and physiological and

psychological changes that occur in players and go along with them until they reach maturity in all its manifestations. The coaches in charge of this stage must take into account the level of physical development (biological age) and the chronological age between the players. We find that they have differences in physical structure, some of whom are tall, short, fat and muscular, even though they have the same age. Early maturity leads the budding player to excel in some areas. Morphological and functional characteristics, as well as physical characteristics such as strength and speed. This is due to the growth and development of body length and muscle mass and also leads to improving skill performance. Coaches must be aware and knowledgeable of the nature of the growth and maturity of their players, so as not to deprive a group of players from training and focus on a specific group. .

Perhaps what prompted the researcher to complete this research was knowing the importance of agility for handball players under 15 years old, as well as searching for the relationship that exists between it and various basic skills.

We tried to formulate the problem that we are trying to answer in our research with the following questions:

1- General question:

Is there a correlation between agility and the skill performance of handball players under 15?

2- General hypothesis:

There is a correlation between agility and the skill performance of handball players under 15.

2- 1- Partial hypotheses:

- There is a significant correlation between the attribute of agility and the performance of the shooting skill in handball players under 15 years of age.
- There is a significant correlation between the agility trait and the performance of the dribbling skill among handball players under 15 years old.
- There is a significant correlation between the agility trait and the performance of the deception skill among handball players under 15 years old.
- There is a significant correlation between the agility trait and the performance of the defensive step skill among handball players under 15 years old.

4- Objectives of the study:

- Recognizing the importance of agility among players under 15 years old.
- Identifying the handball skills that are used during this stage for children under 15 years of age.
- Knowing the relationship between agility and basic skills in handball.

5- Defining concepts and terminology:

5-1- Agility:

Terminological definition: Agility is considered one of the complex physical components, and there has been a great deal of difference in clarifying its concept due to its close relationship with other physical components. Larson and Jokum define it as: “the ability of an individual to change the position of his body, whether on the ground or in the air.” (Al-Hawi, 2002, p. 150).

Hashim defines it, quoting Imova: “It is the ability to quickly and easily master new movements and learn quickly in implementing them, as well as the speed of rebuilding motor activity in proportion to the requirements of changing positions in order to obtain ideal solutions during performance. Its measurement depends on the difficulty of performing the motor task. Accuracy of motor performance, duration of performing the motor task. (Iscarud, 2008, p. 91).

Procedural definition: It is the ability to control body movements with appropriate flow and rhythm and change their direction quickly, whether on the ground or in the air, to accomplish a specific motor task. .

5-2- Skill:

Terminological definition: The term skill refers to the performance of a specific act or to the manner in which this act is performed. Skill is a relative characteristic, and has many definitions, so that it is impossible to put a final limit on it, as performance can be very clear in front of the audience because it allows the player to be classified among the skilled players when compared to his fellow players. (Zidan, Musa, 2005, p. 23)

Weineck defines it as a solution to a specific movement problem in a rational and economical way. (Weineck, 1990, p. 223)

Procedural definition: It is the performance that an emerging player acquires by playing the game of handball, or by practicing different types of professions, through repetition, trial and error until it becomes automatic.

5-4- Handball:

The technical definition: It is a team sport that emerged during the 19th century. It is played by hand in which two teams compete, each with seven players. They play the match on a rectangular court, with two goals set on it to score goals. The goal of each team is to score the largest number of goals to win the match. . (Al-Saqqaf, 2013, p. 26). It takes a field 40 meters long and 20 meters wide and is conducted by two referees. It consists of two halves, each half lasting 30 minutes, separated by 10 minutes for recovery and rest. (Allawi, Ghadhban, 1995, p. 26).

Procedural definition: It is a team sport played between two teams, each team consisting of 7 players. It takes place on a field 40 meters long and 20 meters wide. The team is considered

the winner if it scores the largest number of goals in a period of 60 minutes. Any two sessions separated by 10 minutes of rest.

6- Methodological procedures for the study:

6- 1- The approach followed:

We used the descriptive approach using the appropriate correlational method to study the relationship between phenomena or variables and explain them.

The descriptive approach is defined as a method of analysis and interpretation in an organized scientific manner in order to reach specific goals regarding a social problem. The descriptive approach is considered a way to describe the studied phenomenon and depict it quantitatively by collecting accurate information about the problem, classifying it, analyzing it, and subjecting it to study. (Mansour, Taher, 2003) , p. 18).

6 -2- The research community:

The research community was represented by the Wydad Sidi Issa amateur handball team for under 15 years, which numbered 25 players.

6- 3- Research sample:

The research sample was taken intentionally and represented the Wydad Sidi Issa amateur handball team, with 12 players under 15 years of age.

6- 4- Fields of study:

6-4-1- Spatial field:

The place for conducting the research is in the multi-sport hall, Sidi Issa Municipality.

6-4-2- The temporal field:

This research (exploratory experiment, main experiment) was conducted from April 19, 2016 until January 20, 2017, where skill and physical tests were conducted, after which the results obtained can be analyzed using statistical methods.

6- 5- Exploratory study:

We contacted the State Handball Association to obtain sufficient information, then we visited several clubs to find out the population and sample of the research on which we will conduct the study, the appropriate research tool, and whether the proposed tests fit the chosen sample and can they actually be applied, as well as determining the appropriate time to meet the research sample and conduct the main study. .

6- 6- The exploratory experience:

The exploratory experiment was carried out on a sample of 10 players from the Wydad Sidi Issa handball team, under 15 years of age, who we relater excluded from the original

experiment. The sample taken matched the age conditions and morphological characteristics of the research sample.

The tests were also conducted at the same time and under the same conditions, which is the same time as all the physical and skill tests for handball in this research. The aim of this exploratory experiment was to study the efficiency of the proposed tests, i.e. the stability, validity, and objectivity of these tests.

6-7- Study tools:

6-7- 1- Tests:

We relied on a set of tests that measure the skill and physical aspects of handball, which were presented and discussed to a group of experts and specialists in the field of sports training and handball, who expressed their agreement with them.

-Barrow agility test, dribbling test, medicine ball shooting test, rising shooting test, dribbling test, defensive steps test.

6-7-2- Statistical methods:

The goal of using statistical techniques is to arrive at quantitative indicators that help us analyze, explain, interpret, and judge. Among the most important techniques used in this research we find:

The Statistical Package System for Social Sciences (SPSS), version 20, is one of the most important and famous ready-made software packages in the field of statistical data processing.

7- Presentation and analysis of the study results:

7-1- Presentation and analysis of the relationship between agility and the shooting skill of the handball players under study:

Table No. (01) shows the relationship between agility and shooting skill in handball players under 15 years old.

Physical qualities		Handball skills
		Aiming to rise
Agility	Barrow test	**0.825
**The correlation is significant at the alpha significance level ($\alpha=0.01$).		
*The correlation is significant at the alpha significance level ($\alpha=0.05$).		

Through Table (01) above and looking at the value of the simple Pearson correlation coefficient between the Barrow agility test and the shooting from elevation test, its value was (0.82), and it was a strong, positive, direct relationship at the significance level (0.01), and from it we conclude in the end that there is a significant correlation between The Barrow agility test and the shooting skill of rising. From all this, the relationship is clearly evident between the Barrow agility test as an indicator of the agility element and the shooting skill of rising.

7-2- Presentation and analysis of the relationship between agility and dribbling skill among the handball players under study

Table No. (02) shows the relationship between agility and dribbling skill among handball players under 15 years old.

Physical qualities		Handball skills
		Dribbling
Agility	Barrow test	**0.745
**The correlation is significant at the alpha significance level ($\alpha=0.01$).		
*The correlation is significant at the alpha significance level ($\alpha=0.05$).		

Through Table (02) above and looking at the value of the simple Pearson correlation coefficient between the Barrow agility test and the dribbling test, its value was (0.74), and it was a strong positive relationship at the significance level (0.01), and from it we conclude in the end that there is a significant correlation between the Barrow test For agility and dribbling skill, from all of this the relationship is clearly evident between the Barrow agility test as an indicator of the agility component and dribbling skill.

The degree of certainty for this result is 99%, with a chance of error of 1%

7-3- Presentation and analysis of the relationship between agility and deception skill among the handball players under study:

Table No. (03) shows the relationship between agility and deception skill among handball players under 15 years old.

Physical qualities		Handball skills
		Deception
Agility	Barrow test	**0.763
**The correlation is significant at the alpha significance level ($\alpha=0.01$).		
*The correlation is significant at the alpha significance level ($\alpha=0.05$).		

Through Table (03) above and looking at the value of the simple Pearson correlation coefficient between the Barro test of agility and the test of deception, its value was (0.76), and it was a strong positive positive relationship at the significance level (0.01), and from it we conclude in the end that there is a significant correlation between the Barro test For agility and deception skill, from all this the relationship clearly emerges between both the Barrow agility test as an indicator of the agility component and deception skill.

The degree of certainty for this result is 99%, with a chance of error of 1%

7-4- Presentation and analysis of the relationship between agility and the skill of defensive steps among the handball players under study:

Table No. (04) shows the relationship between agility and the skill of defensive steps among handball players under 15 years old.

Physical qualities		Handball skills
		Defensive steps
Agility	Barrow test	**0.842
**The correlation is significant at the alpha significance level ($\alpha=0.01$).		
*The correlation is significant at the alpha significance level ($\alpha=0.05$).		

Through Table (04) above and looking at the value of the simple Pearson correlation coefficient between the Barrow agility test and the defensive steps test, its value was (0.84), and it was a strong, positive, direct relationship at the significance level (0.01), and from it we conclude in the end that there is a significant correlation between the test Barrow agility and the skill of defensive steps. From all this, the relation ship between the Barrow agility test as an indicator of the agility component and the skill of defensive steps is clearly evident.

The degree of certainty for this result is 99%, with a chance of error of 1%.

8- Discussing the results of the study:

Which says that there is a correlation between the attribute of agility and the skill performance of handball players under the age of 15, so that the researcher reached the following conclusion:

There is a strong, positive correlation between each of the zigzag running between cones (Barrow) test, the shooting test from the rise, the 40 m zigzag dribbling test, the deception test, and the defensive steps test. which shows us the presence A statistically significant correlation between the agility component and the dribbling skill, a significant relationship between the agility component and the defensive moves skill, and a significant relationship between the agility component and the deception (dribbling) skill.

The researcher believes that the characteristic of agility is of great importance in the player's control of his body while moving with the ball, especially in quick and rebound attacks, al so

during the player's camouflage with his body or a limb of the body and quickly returning it to the state it was in and then redirecting the body to the opposite side, also during movement. In the defense zone with or without the opponent and how to deal with him without making mistakes. This is what Sami Muhammad Ali (1990) points out: The goal of modern handball defense is no longer merely to thwart the plans of the attacking team when opening a gap to shoot and hit the goal. Rather, this has gone beyond the constant and urgent attempt to disrupt the offensive work of the opposing team and confuse it, which makes it easier for the defender to obtain the ball and become an attacking team, from this standpoint, defensive skills developed, and thus defensive methods and their various formations developed to reach a type of positive defense. (Helwa, 2005, p. 21).

According to the study of (Ghazal and Muhammad): "The skill of defensive movements requires a number of physical fitness elements, including agility and compatibility. We notice that the quality of agility is linked to motor performance and determines the degree of its accuracy, flow, timing, and compatibility, and reflects the body's ability to relax at the correct times, its sense, and the directions." and defensive distances. (Ghazal, Muhammad, PT, p. 37).

As for the skill of dribbling and deception, the pioneers of the Oriental School, led by Germany and Russia, believe that agility depends on the individual's ability to change his body or the direction of his movement in the shortest possible time and with correct timing. (Ali, 1999, p. 148).

Abu Al-Ela and Shaalan (1994) point out that zigzag running exercises with the ball, various deception operations, and defensive movements contribute to developing the element of agility and coordination. (Darwish, 1998, p. 19).

Our study is consistent with the study of (Shehab Ahmed Hassan and Daa Ahmed Zaki 2012): they concluded that there is a positive, significant correlation between agility and dribbling skill.

As for the positive and moral relationship between the element of agility and the skill of aiming to improve. It is due to the fact that the player shooting from the rise has a defender in front of him who obstructs him while shooting. He must be avoided and then aim at the goal quickly and smoothly. The shot often ends with him falling to the ground, which requires the player to quickly change parts of his body, control it, and quickly get up and transform from attacker to defender.

This is confirmed by (Muhammad Hassan Allawi and Muhammad Nasr al-Din Radwan): that agility appears clearly in forms of motor performance that require deception with the body, running zigzag, changing direction, stopping, then starting, and changing body positions quickly.

The success of some handball skills requires sagility, such as shooting after pushing the ground, which requires quickly changing from running to jumping, and deception with or without the ball, which requires quickly changing movement or body to prevent shooting and then landing. (Mohamed Azza, 1995, p. 33).

He explains (Bassem Jamil, quoting Abu Al-Ala Abdel Fattah): that agility is one of the important elements of physical fitness for the handball player, as the game requires speed in changing the direction of the body when confronting an opponent or when avoiding or getting rid of him, and then reaching the appropriate place to pass the ball or Receiving it or aiming it towards the goal. The role of agility al so appears when the player prepares to shoot at the goal and surprises the goalkeeper of the opposing team while he is trying to close the corner or the place that the player was aiming to shoot to. Here, a player with good agility can change the location of the shot, which enables him to deceive the goalkeeper. (Jamil, 2014 , p. 315).

Based on the findings, we can say that the general hypothesis is met.

The conclusions are:

- There is a significant correlation between the attribute of agility and the performance of the shooting skill in handball players under 15 years of age.
- There is a significant correlation between the agility trait and the performance of the dribbling skill among handball players under 15 years old.
- There is a significant correlation between the agility trait and the performance of the deception skill among handball players under 15 years old.
- There is a significant correlation between the agility trait and the performance of the defensive steps skill among handball players under 15 years old.
- There is an effect of agility on the performance of some handball skills among players under 15 years old.

Recommendations and suggestions:

- Giving the necessary attention to the elements of physical fitness that are related to skill performance in handball.
- The necessity of developing agility because of its importance in improving the skill aspect of handball.
- The necessity of developing speed due to its importance in speed of passing and deception.
- Linking agility with functional variables and skill performance.
- Develop standardized training programs that focus on physical characteristic that suit young people to raise the skill level in handball.
- Coaches' interest in the junior category.

Conduct similar studies on other physical characteristics and link them to other skills.

- Conducting similar research at an age level different from our study.

.

List of references:

1. Allawi Muhammad Hassan, and Ghadhban Muhammad Nasr al-Din. (1995). Measurement in physical education and sports psychology. 3rd edition. Egypt: Dar Al-Fikr Al-Arabi
2. Allawi Muhammad Hassan and others. (2003). Technical preparation in handball. Cairo: Al-Kitab Publishing Center.
3. Ali Adel Abdel Basir. (1999). Sports training and integration between theory and practice. Cairo: Al-Kitab Publishing Center.
4. Al-Jumaili Saad Hammad. (2014). Field training in strength and flexibility.1st edition. Jordan: Dar Degla Publishers and Distributors.
5. Al-Hawi Yahya Al-Sayyid Ismail. (2002). The sports coach combines the traditional method and modern technology in the field of training. 1st edition. Egypt: Arab Center for Publishing.
6. Al-Saqqaf Fathi Hadi Ahmed. (2013). Modern scientific training in handball. Alexandria: Horus International Publishing and Distribution Foundation.
7. Darwish Kamal Al-Din Abdel Rahman. (1998). Physiological foundations of handball training - theories and applications - 1st edition. Cairo: Al-Kitab Publishing Center.
8. Ghazal Abdel Karim Qasim, Muhammad Ahmed Abdel Muttalib. (s.a). Building a test battery for some basic handball skills for northern region club players. The eighteenth periodic conference. Colleges and departments of physical education. Iraq. Mosul.
9. halwa Reham Mansour Rashad. (2005). The effect of a training program on the effectiveness of the blitz and its relationship to the quick rebound defense for female handball girls. Thesis (Master). Tanta University
10. Imad Al-Din and others. (2008). Applications of attack in handball, 1st edition, Egypt: B.N.
11. Iskarud Imova I am. (2008). Encyclopedia of applied exercises for all sports. (Hassan Hashem Yasser. Translator). 1st edition. Cairo: ArabThought Publishing House.
12. Jaaz Falah, Muhammad Iyad. (2007). Physical characteristics of public and private school student tsaged (10-12 years). The six teen scientific conference. Colleges and departments of physical education. Iraq. Babylon. The Yemeni city of Mukalla.
13. Jamil Saad Bassem. (2014). Building a battery of tests for the physical fitness elements of elite handball club players. Al-Rafidain Journal of Sports Sciences. Iraq. Volume 20(64). p. 315.
14. Muhammad Azza Hassan Siam. (1995). The effect of a proposed preliminary games program on some elements of special physical fitness and functional efficiency for female handball players under 11 years old. Dissertation (PhD). Helwan University
15. Mansour Kamal Ait, and Taher Rabeh. (2003). Methodology for preparing scientific research, Ain Melilla. Algeria: Dar Al-Huda for Printing and Publishing..
16. Weineck, J. (1990). Manuel D'entraînement. Paris: Vigot.
17. Zidane Mustafa Muhammad, and Musa Gamal Ramadan (2005). Teaching junior basketball. College of Physical Education. 2nd ed. Al-Azhar University: D.N.